

REMARKS

In the Office Action mailed May 5, 2003 (Paper No. 15), the Examiner rejected pending Claims 30-37 and 56-62 under 35 U.S.C. §103 as being unpatentable over Shue (U.S. Patent No. 6,281,127) in view of Sandhu et al. (U.S. Patent No. 5,069,002). The Applicant has amended the pending claims to highlight the subject matter that the Applicant believes is unique and requests reconsideration of the above-captioned application in light of the amendments and remarks contained herein.

The Applicant would initially like to take this opportunity to thank the Examiner for extending the courtesy of a personal interview to Applicant's representative, Michael H. Trenholm, on July 11, 2003. In the interview, a proposed claim amendment was discussed in light of the Shue and Sandhu references. In particular, the Applicant noted that Shue does not disclose the concept of detecting when the chemical mechanical polishing process has removed the sacrificial layer and halting the chemical mechanical process upon this detection so as to maintain the dielectric layer at the first thickness. In particular, while Shue indicates that while an initial CMP process used to remove unwanted material is halted a subsequent "final" CMP procedure is continued after the removal of the layer 5 so as to diffuse boron from the exposed BSG or BPSG layer (i.e., the dielectric layer) into the exposed copper damascene structure 6B (*See*, Shue, column 5, lines 9-20). Since portions of the BSG or BPSG dielectric layer are being removed from that layer so as to be interspersed into the copper damascene structure, inherently the dielectric layer is being thinned. Hence, Shue is explicitly teaching not halting the CMP process at the interface between the dielectric layer and the sacrificial layer in the manner claimed by the Applicant as Shue is explicitly teaching continuing the CMP process until a portion of the dielectric layer has been removed.

During the interview, the Examiner also indicated that Shue could conceivably read on one interpretation of Applicant's claim if the layer was viewed as the dielectric layer. To address this particular concern, the Applicant has amended Claim 30 to indicate that an aperture is formed in the dielectric layer and the conductive material is deposited so as to fill the aperture and so as to cover at least a portion of the sacrificial layer. In contrast, Shue does not form the aperture in the dielectric layer 1, rather Shue forms it in the dielectric layer 3. However, Shue also teaches of continuing the CMP process such that the dielectric layer 3 is thinned. As a

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consequence, the dielectric layer 3 is not a shield layer in the manner that is claimed by the Applicant. Thus, the Applicant believes that Claim 30 as amended is allowable over the art of record.

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SUMMARY

For the foregoing reasons, the Applicant believes that Claim 30 is allowable over the art of record. Moreover, similar limitations have been added to Claim 56 and the Applicant therefore submits that Claim 56 is also allowable for similar reasons. The remaining claims define additional patentable subject matter and are further allowable due to their respective dependencies on Claims 30 and 56. The Applicant therefore believes that the above-captioned application is now in condition for allowance and requests the prompt allowance of the same. Should there be any impediment to the prompt allowance of this application that could be resolved by a telephone conference, the Examiner is respectfully requested to call the undersigned at the number shown below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 9/5/03

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